DOCUMENT RESUME

ED 104 887 SP 009 133

AUTHOR Miller, A. H.; And Others
TITLE Attitudes of Teacher Education Students toward Teachers.
PUB DATE 75
NOTE 13p.; Paper presented at the Annual Meeting of the American Educational Research Association (Washington, D.C., 1975)

EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS *Cognitive Objectives; Educational Research; Education Majors; Graduate Students; Higher Education; Rating Scales; Statistical Analysis; *Student Attitudes; Surveys; Teacher Education; *Teachers
IDENTIFIERS MTFS; Multiple Teacher Factors Survey

ABSTRACT

Cognitive dissonance theory implies that teacher education students will optimally internalize and most fully use pedagogical learnings compatible with their attitude systems. In order to determine the self-reported attitudes of teacher education students toward teachers, a pilot-study sample of graduate students reacted to four teacher-types within the context of 36 adjectives. For each adjective, respondents were asked to mark the point on an agree-disagree continuum which best represented their feelings toward statements concerning teachers. This Multiple Teacher Factors Survey (MTFS) indicated that student attitudes toward four teacher-types might be arrayed along dimensions of a) personal warmth, b) intellectual skill, c) academic rigor, and d) instructional submissiveness. Respondents' attitudes toward the teacher-types were also compared. Findings have implications for teacher educators regarding presentation and sequencing of instructional material, specification of program goals, and validation of program competencies using the parameters of the attitudes which the MTFS measures. (Tables illustrating a variable correlation matrix, item factor loadings and percentages of variance, and teacher-type comparisons are included.) (Author/JS)

10.16

ED104887

ATTITUDES OF TEACHER EDUCATION STUDENTS TOWARD TEACHERS[1]

A. H. Miller
University of Houston

B. Thompson
Houston Independent School District

R. G. Frankiewicz
University of Houston

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SP009 133

[1] Paper presented at the 1975 annual American Educational Research Association meeting in Washington, D.C.

Attitudes of Teacher Education Students Toward Teachers

A. H. Miller
B. Thompson
R. G. Frankiewicz

Educational psychologists accept as virtually axiomatic the principle that people learn best that which they perceive as being valuable. Expressed within the framework of cognitive dissonance theory (Festinger, 1957), it might be said that students will optimally learn and most fully employ information and skills which are compatible with their attitude systems. If teacher preparation programs are intended to move students toward internalization and application of certain knowledge and skills, then the nature of teacher education students' attitudes toward teachers should clearly be of interest to teacher education program developers.

Still, for all the importance of investigation in this area, a review of the literature revealed that only a few studies have been performed with the purpose of achieving some such understanding. Wehling and Charters (1969) identified eight dimensions of teacher beliefs about the teaching process. These dimensions were: (1) subject-matter emphasis, (2) personal adjustment ideology, (3) student autonomy, (4) emotional disengagement, (5) consideration of student viewpoint, (6) classroom order, (7) student challenge, and (8) integrative learning. The investigators note, however, that these dimensions have varying, and in some cases perhaps questionable stability.

Horn and Morrison (1965) also used factor analytic techniques to study education-related attitudes. Based on analysis of returns by college education students, they identified five covarying patterns of Minnesota Teacher Attitude Inventory items.

> Factor I appeared to reflect a "modern" attitude toward classroom control as contrasted with pre-Deweyian or "traditionalistic" attitude. Factor II suggested an optimism-favorable vs. pessimism-unfavorable dimension of opinions about pupils. Factor III seemed to represent a permissive lack of concern vs. punitive concern about "smart," "rebellious" behavior. Factor IV reflected rejection of pupils, but a rejection stemming from bewilderment rather than from dislike or punitiveness. Factor V seemed to indicate a desire to maintain control over children vs. an inclination to let them "run free." (p. 118)

Kerlinger (1956, 1958, 1961), and Kerlinger and Kaya (1959a, 1959b), have conducted fairly extensive studies of attitudes toward education. They have consistently found that there are two largely uncorrelated dimensions of attitudes toward education: progressivism and traditionalism.

Kerlinger (1967) found that three attitude dimensions underlay the perceptions of teachers held by 1,197 teachers and graduate students of education. Items such as friendly, kind, cheerful, pleasant, and polite loaded on the factor named "positive person orientation." Items such as efficient, punctual, thorough, industrious, and conscientious loaded on the factor labelled "systematic task orientation." Items such as imaginative, insightful, flexible, original, and tolerant loaded on the third factor, labelled "functional flexibility."

The above-named studies do provide insight into education-related attitude dimensions. Still, only the Horn and Morrison study dealt only with teacher-trainee respondents. Only the Kerlinger (1967) study looked specifically at the question of attitudes toward teachers. Thus, the major objective of the study reported here was to ascertain the self-reported attitudes of teacher education students toward teachers. Specifically, the study first sought to identify dimensions of student attitudes toward teachers, and second, sought to contrast attitudes toward certain teacher-types along the identified attitude dimensions.

The first phase of the study involved instrument development and refinement. Upon examination of adjectives named by graduate students (N=293) as best characterizing the one teacher who was their best teacher, it was inferred that attitudes toward teachers might be arrayed along at least three dimensions. These dimensions were thought to relate to teacher knowledge, instructional method, and personality.

On the basis of these findings 12 adjectives were selected to mark each of the inferred attitude dimensions. For the purposes of instrument refinement, a pilot-study sample of graduate students (N=63) reacted to three teacher-types within the context of the 36 adjectives. For each adjective, respondents were asked to place a mark at that point on an agree-disagree continuum which best represents "your feelings about the statement you are considering." The three teacher-type referents were choosen to produce maximal variance with total

mean ranking close to scale median. The teacher-types were:

1) "Of all the teachers I have ever had, the one teacher whom I thought was the best teacher..,"
2) "Myself as teacher..," and
3) "Of all the teachers I have ever had the one teacher whom I thought was the worst teacher..."

Each mark was scored by measuring the distance between it and the right end of the continuum on a 15-unit equal-interval scale.

Principal components analytic procedures identified six principal components which accounted for 70.7% of the variance among the adjectives. However, parsimony in number of factors to minimize effects of error and sampling specificity (Petersen, 1965) was deemed desirable. Thus, after solution inspection and application of Cattell's (1965) "scree test," the first three factors were rotated to the varimax criterion (Kaiser, 1958). These three factors accounted for 60.8% of the total variance.

Using criteria of high factor loading and univocality, 6, 5, and 3 adjectives from each factor were judged to have performed well in establishing the three principal components. Subsequently, 2, 3, and 5 additional adjectives were choosen to be used in conjunction with the items retained for the refined study instrument. The 24 adjectives were next randomly ordered after stratifying over the hypothesized components. Thus, one but only one adjective from each hypothesized factor appeared in every set of three items.

In May of 1974, the resultant Multiple Teacher Factors (MTF) Survey was administered to a portion of all University of Houston students actively enrolled in the second semester of teacher preparation course, Foundations of Education 361 (N=265). For each of the 24 adjectives, the respondents were asked to place a mark on a disagree-agree continuum which best characterizes "your feelings about the statement" under consideration. In addition to rating the three teacher-types used in the pilot-study, respondents also rated the teacher-type, "Of all the teachers I have ever had, the one teacher from whom I learned the most content material..."

The instruments were scaled and analyzed as were the pilot-study instruments. Of the 193 obtained returns, 181 were usable (n/N=.683). Instruments were deemed non-usable when more than two items per page were blank or marked twice. Otherwise blank scale scores were estimated as the median score on the page, while double marked scale scores were estimated as the mean of the

discrepancy between the two scores plus the lower score. In this fashion .34% of the total data (59/17,376) was estimated. The variable-by-variable correlation matrix derived through this process is reported in Table 1.

Four components accounting for 67.5% of the total variance were identified through a principal components analysis with rotation to the varimax criterion. Alpha factor analysis of the data yielded Cronbach generalizability coefficients for the factors of .972, .854, .621, and .264 respectively. The first three factors were judged to measure personal warmth, intellectual skill, and academic rigor. The fourth very unstable factor apparently measured an aspect of instructional style having a connotation of submissiveness and impotency. Item factor loadings, as well as factor and total variance percentages-accounted-for are presented in Table 2.

Using the weights in Table 2 to define the four dimensions, each dimension was in turn regressed upon the original responses to the 24 adjectives. In this fashion least squares regression estimates of factor scores were obtained (Thurstone, 1935). Finally, to accomadate subsequent comparisons of the teacher-types along the four dimensions, scores for all 181 respondents were standardized such that the mean of the 724 scores was zero and a standard deviation of unity was supported. Respondents' scores on each dimension were then partitioned across the teacher-type concepts. Descriptive statistics on the partitioned scores are provided in Table 3.

Based on the mean and standard error of the mean for each teacher-type on each dimension, simultaneous confidence intervals were established within which one could conclude ($p < .05$) that sampling did not account for the range of the factor score means. When one of these confidence intervals failed to include the position of zero, this was taken as a clear non-nuetral judgment of the teacher-type by the 181 respondents as a whole on that dimension. The results of teacher-types comparisons across the four dimensions are summarized in Figure 1. These findings have several implications of educational importance.

First, the study establishes through a quasi-inductive process some dimensions of teacher characteristics which students themselves see as being focal. Perhaps these dimensions should be considered when teaching pedagogy. If students value "best teachers" most, why not teach pedagogy in a fashion

TABLE 1

VARIABLE-BY-VARIABLE
CORRELATION MATRIX

	Intel	Undir	Hones	Schol	Perso	Easy	Dista	Infor	Docil	Carin	Syste	Effec
Intelligent	-----											
Undirected	-.230	-----										
Honest	.485	-.246	-----									
Scholarly	.653	-.242	.340	-----								
Personable	.411	-.311	.618	.243	-----							
Easy	-.287	.217	-.022	-.265	.016	-----						
Distant	-.182	.295	-.387	-.085	-.529	-.008	-----					
Informed	.687	-.259	.495	.618	.468	-.229	-.258	-----				
Docile	-.196	.228	-.098	-.102	-.107	.231	.176	-.133	-----			
Caring	.445	-.342	.694	.281	.844	.011	-.552	.522	-.072	-----		
Systematic	.280	-.175	.113	.333	.030	-.229	.038	.283	-.012	.084	-----	
Effective	.562	-.383	.622	.407	.723	-.155	-.484	.652	-.141	.798	.184	-----
Profound	.391	-.157	.294	.405	.349	-.104	-.180	.439	-.086	.369	.225	.488
Simple	-.263	.157	-.067	-.275	.003	.503	.049	-.209	.203	-.009	-.140	-.125
Concerned	.446	-.367	.664	.293	.823	-.034	-.527	.511	-.092	.917	.107	.775
Humane	.351	-.268	.654	.217	.741	.066	-.448	.442	-.026	.855	.063	.683
Motivating	.521	-.371	.639	.359	.796	-.119	-.528	.578	-.126	.845	.104	.886
Analytical	.429	-.187	.265	.488	.220	-.251	-.064	.455	-.107	.247	.418	.385
Knowledgeable	.710	-.259	.463	.634	.396	-.255	-.246	.767	-.148	.468	.307	.618
Humorous	.390	-.257	.500	.218	.734	-.001	-.483	.456	-.063	.723	.040	.688
Exacting	.333	-.144	.122	.267	.100	-.318	.017	.315	-.018	.101	.497	.252
Rigorous	.230	-.094	.026	.293	.014	-.263	.031	.206	-.062	.022	.386	.193
Enlightened	.554	-.272	.587	.432	.649	-.113	-.380	.664	-.103	.686	.176	.740
Warm	.396	-.297	.620	.220	.860	.019	-.555	.447	-.081	.882	.019	.748

	Profo	Simpl	Conce	Human	Motiv	Analy	Knowl	Humor	Exact	Rigor	Enlig	Warm
Profound	-----											
Simple	-.064	-----										
Concerned	.353	-.004	-----									
Humane	.337	.056	.832	-----								
Motivating	.444	-.086	.830	.735	-----							
Analytical	.448	-.187	.254	.208	.317	-----						
Knowledgeable	.428	-.256	.444	.388	.570	.465	-----					
Humorous	.332	.040	.694	.660	.735	.218	.421	-----				
Exacting	.314	-.181	.145	.057	.198	.475	.339	.106	-----			
Rigorous	.213	-.154	.081	-.033	.141	.384	.237	.034	.579	-----		
Enlightened	.477	-.110	.675	.634	.743	.428	.634	.618	.244	.196	-----	
Warm	.331	.013	.868	.810	.818	.192	.398	.783	.050	-.031	.673	-----

TABLE 2

Item Factor Loadings, and Percentages of
Factor Variance and Total Variance Accounted for

ITEM	PERSONAL WARMTH	INTELLECTUAL SKILL	ACADEMIC RIGOR	INSTRUCTIONAL SUBMISSIVENESS
Intelligent	.297	.762	.154	-.209
Undirected	-.399	.042	-.192	.493
Honest	.658	.377	-.009	-.017
Scholarly	.107	.761	.265	-.159
Personable	.884	.164	.015	-.017
Easy	.084	-.187	-.284	.691
Distant	-.666	.077	.070	.238
Informed	.392	.753	.165	-.123
Docile	-.098	-.033	.070	.646
Caring	.922	.216	.032	-.000
Systematic	-.004	.193	.701	-.050
Effective	.783	.386	.189	-.128
Profound	.317	.441	.331	.071
Simple	.101	-.273	-.062	.690
Concerned	.906	.185	.091	-.032
Humane	.855	.179	-.000	.100
Motivating	.855	.308	.122	-.106
Analytical	.146	.457	.566	-.067
Knowledgable	.330	.772	.187	-.170
Humorous	.799	.182	.040	.028
Exacting	.038	.193	.818	-.086
Rigorous	-.013	.067	.788	-.109
Enlightened	.662	.500	.171	-.024
Warm	.923	.150	-.027	.001
% FACTOR VAR. (Sum = 100)	49.4	23.2	16.0	11.4
% TOTAL VAR. (Sum = 67.5)	33.3	15.6	10.8	07.7

TABLE 3

Descriptive Statistics on Partitioned Factor Scores

Best Teacher

Factor I

coef. of skewness	1.2167
coef. of kurtosis	4.2375

Factor II

coef. of skewness	.8372
coef. of kurtosis	4.7448

Factor III

coef. of skewness	.2972
coef. of kurtosis	2.6370

Factor IV

coef. of skewness	-.5720
coef. of kurtosis	2.9898

Myself as Teacher

Factor I

coef. of skewness	.5186
coef. of kurtosis	3.1148

Factor II

coef. of skewness	.6774
coef. of kurtosis	4.7789

Factor III

coef. of skewness	.2572
coef. of kurtosis	2.6044

Factor IV

coef. of skewness	-.1303
coef. of kurtosis	2.7437

Worst Teacher

Factor I

coef. of skewness	-.3610
coef. of kurtosis	2.8952

Factor II

coef. of skewness	.0586
coef. of kurtosis	2.1378

Factor III

coef. of skewness	.1533
coef. of kurtosis	2.1532

Factor IV

coef. of skewness	-.2712
coef. of kurtosis	2.2524

Most Content Teacher

Factor I

coef. of skewness	.8582
coef. of kurtosis	3.3826

Factor II

coef. of skewness	.1584
coef. of kurtosis	4.2930

Factor III

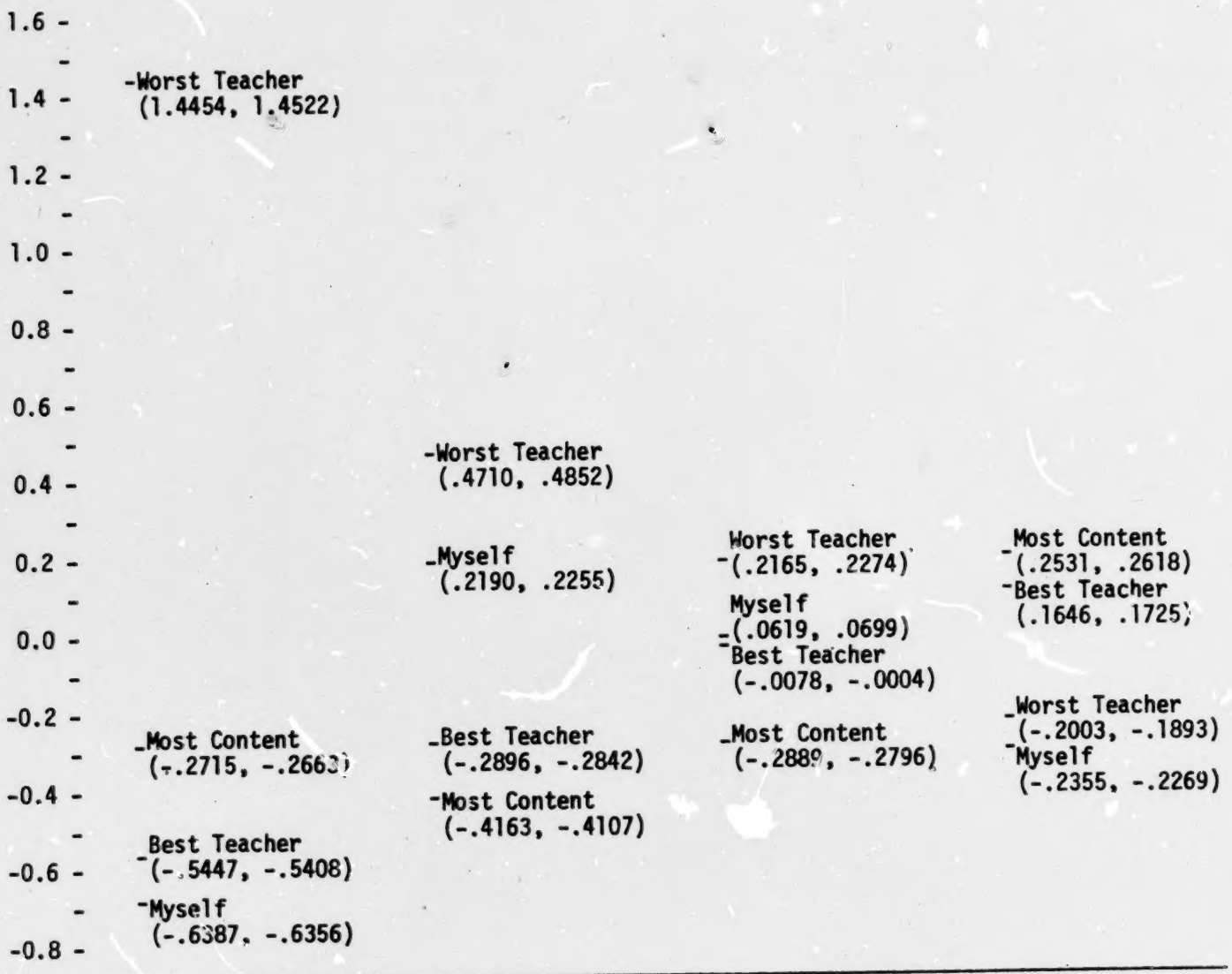
coef. of skewness	.6778
coef. of kurtosis	2.9214

Factor IV

coef. of skewness	-.6821
coef. of kurtosis	3.1193

FIGURE 1

Teacher-type Comparisons Across the Four Dimensions



most consonant with a "best teacher" mind set? For instance, why not couch efforts to persuade students to develop and use questioning skills in terms of what the skills will do for pupil growth and perception of teacher warmth?

Second, the study offers further insight into student perception of professional growth at one point in career development. Perhaps students enter pedagogical courses having attributes like those ascribed to "best teachers" (warmth, rigor), aspire to experiences associated with these teachers (knowledge), but feel a little afraid and thus somewhat submissive. Then, after some student teaching, perhaps the students become less warm and submissive, and more rigorous and knowledgeable (Hoy, 1967; Jacobs, 1967). Finally, after 1 or 2 years experience, possibly the students, now teachers, move back toward their original ideals, and come closer to actualizing these ideals. Thus, to the extent that this study contributes to knowledge of attitude change trends, perhaps these findings could be considered as a framework within which instruction could be sequenced. For example, during the height of student concerns about warmth, perhaps preparation efforts should then focus primarily on teaching students how to be warm in a manner which will facilitate pupil personal growth.

Third, the study seems to have some implications for teacher preparation program goals specification. Program developers may need to decide if they wish to produce "best teachers" or "teachers from whom I have learned the most content material." Programs attempting to produce "best teachers" might encourage students to be warm, somewhat knowledgeable, and somewhat submissive. Interestingly, "best teachers" are defined independent of instructional rigor, thus values implied by this dimension need not be fostered by such a program. Programs seeking to produce "most effective teachers," on the other hand, might move students toward being somewhat warm, and more knowledgeable, rigorous, and non-submissive than "best teachers."

Finally, the MTF Survey might be used to assess either students and/or program competencies. With regard to assessing students, the Survey might be used for formative assessment purposes. That is, students might be asked to examine their attitudes toward the teacher-types in comparison with the attitudes held either by most students, most teachers, or by "effective" teachers.

Too, the constructs here named might be used in an equation to predict teaching effectiveness. Involved constructs might be weighted with both additive and multiplicative constants. This seems most feasible if attempts to derive such an equation took into account probable interactions of non-linearally related variables. So, someday, the constructs treated here might be used to indirectly validate instructional competencies, using the equation as a correlate of competency criteria variables. Criteria which correlate highly with the predictive equation variables might then be said to have been indirectly tested for validity.

BIBLIOGRAPHY

Cattell, R. B. "The Scree Test for the Number of Factors." Multivariate Behavioral Research, Vol. 1 (1966), 245-276.

Festinger, Leon. A Theory of Cognitive Dissonance. Stanford, California: Stanford University Press, 1967.

Horn, John L., and Morrison, W. Lee. "Dimensions of Teacher Attitudes." Journal of Educational Psychology, Vol. 61 (1967), 153-155.

Jacobs, E. B. Personal and Instructional Variables as Related to Changes in Educational Attitudes of Prospective Elementary School Teachers During Two Phases of the Teacher Education Program, 1965-1966. (Doctoral dissertation, Northern Illinois University) Ann Arbor, Michigan: University Microfilms, 1967.

Kaiser, H. F. "The Varimax Criterion for Analytic Rotation in Factor Analysis." Psychometrika, Vol. 23 (1958), 187-200.

Kerlinger, F. N. "The Attitude Structure of the Individual: A Q-Study of the Educational Attitudes of Professors and Laymen." Genetic Psychology Monographs, Vol. 53 (1956), 283-329.

_____. "Factor Invariance in the Measurement of Attitudes Toward Education." Educational and Psychological Measurement, Vol. 21 (1961), 273-285.

_____. "The Factor Structure and the Content of Perceptions of Desirable Characteristics of Teachers." Educational and Psychological Measurement, Vol. 27 (1967), 643-656.

_____. "Progressivism and Traditionalism: Basic Factors of Educational Attitudes." Journal of Social Psychology, Vol. 48 (1958), 111-135.

_____, and Kaya, Esin. "The Construction and Factor Analytic Validation of Scales to Measure Attitudes Toward Education." Educational and Psychological Measurement, Vol. 19 (1959), 13-29.

_____, and Kaya, Esin. "The Predictive Validity of Scales Constructed to Measure Attitudes Toward Education." Educational and Psychological Measurement, Vol. 19 (1959), 305-317.

Peterson, Donald R. "Scope and Generality of Verbally Defined Personality Factors." Psychological Review, Vol. 72 (1965), 48-59.

Thurstone, L. L. The Vectors of the Mind: Multiple-Factor Analysis for the Isolation of Primary Traits. Chicago: University of Chicago Press, 1935.

Wehling, Leslie J., and Charters, Jr., W. W. "Dimensions of Teacher Beliefs About the Teaching Process." American Educational Research Journal, Vol. 6 (1969), 7-30.